

IN THE CLAIMS:

All pending claims are reproduced below.

1. (Currently Amended) A computer-implemented method for secure encoding of datasets for transmission from a sender to a receiver, the method comprising:
constructing a template ~~agreed to for use by sender and receiver based on one of a~~
plurality of datasets selected for transmission by the sender to the receiver, the
selected dataset comprising a plurality of data elements to be encoded that are a
subset of the selected dataset, each data element being represented by at least one
element reference in the template and each element reference defining at least one
aspect of the encoding of the data element using the template, and wherein at least
one of the element references specifies including a check digit along with an
encoded form of its corresponding data element;
encoding each data element with reference to the template, thereby producing encoded
data according to its corresponding element reference in the template; and
generating an encoded data representation of the dataset by arranging the encoded data
elements in an order specified by the template for secure transmission to the
receiver.
~~decoding the data with reference to the template;~~
wherein said template includes one or more element references; said element reference
includes encoding attributes, which determine a data element to encode or decode
and the representation of the data element; said element references are arranged
relative to each other in a format defined by the template; and at least one of the
element references specifies that the encoded data include a checksum.
2. (Canceled)
3. (Currently Amended) ~~A method as claimed in~~ The method of claim 1 wherein the
element references are spaced apart by one or more literal elements.

4-18. (Canceled)

19. (New) The method of claim 1, wherein the aspect of the encoding of the data element defined by the element reference associated with the data element includes at least one of an encoding set, an encoding length, an encoding element and one or more encoding encryption flags.
20. (New) The method of claim 19, wherein the aspect is an encoding set, and the encoding set is a set of encoding characters for the template that represent characters of a given data element.
21. (New) The method of claim 20, wherein the set of encoding characters include designated encoding characters for representing characters of the data element selected from the group consisting of: decimal digits, hexadecimal digits, selected alphanumeric characters, and upper case letters.
22. (New) The method of claim 19, wherein the aspect is an encoding length, and the encoding length is one or more encoding characters for the template that represent the actual number of characters of a given data element.
23. (New) The method of claim 19, wherein the aspect is an encoding element, and the encoding element is a checksum element.
24. (New) The method of claim 19, wherein the aspect is an encoding encryption flag, and the encoding encryption flag specifies including a check digit for each data element.
25. (New) The method of claim 19, wherein the aspect is an encoding encryption flag, and the encoding encryption flag specifies scrambling of a given data element prior to encoding the element.

26. (New) The method of claim 1, further comprising decoding the encoded data according to the constructed template.
27. (New) The method of claim 1, wherein the selected dataset is for a product activation application, and at least one of the data elements to be encoded is a serial number.
28. (New) The method of claim 1, wherein the selected dataset is for an itemized shopping list application, and at least one of the data elements to be encoded is an item number.
29. (New) The method of claim 1, wherein the selected dataset is for a financial transactions application, and at least one of the data elements to be encoded is an account number.
30. (New) The method of claim 1, wherein the encoded data representation is reduced in size by the use of large numerical bases.
31. (New) The method of claim 1, wherein the data element has an original numeric base and the data element in the encoded data representation is represented in a numerical base that is different from the original numeric base.
32. (New) The method of claim 1, further comprising securely transmitting the encoded data representation from the sender to the receiver.